

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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OTHER : _____																									

Work Order ID 132409

132409

Page 2

Item ID: D135-692-011

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Bearpaw

Start Date: 4/30/15 Start Qty: 2.00

2

Cust Item ID:

Required Date: 5/08/15 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170		0.00							
170	Packaging								
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D135-692-011								
	Location: _____								
	PPP Rev: _____								
180	QC21- Final Inspection - Work Order Release	0.00							
180									
QC	Memo	0.00							
Quality Control									

APR 26 2015 4x

DAS

8

9:39

mc5

MAY 26 2015

mc5

MAY 26 2015

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Picklist Print

May-07-15 2:40:38 PM

Page 1

Work Order ID: 132409

132409

Parent Item: D135-692-011

D135-692-011

Parent Item Name: Bearpaw

Start Date: 4/30/15

Required Date: 5/08/15

Start Qty: 2.00

Required Qty: 2.00

Comments:

IPP Rev:C04.02.17Blank size changed, Tolerance added Step
3KJ/JLM IPP REV:E AS PER DSI
9592/9587 REV A JLM VERIFIED BY:EC
IPP Rev:D 08-04-16 Added Step 2 JLM Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

AN4-13A		Purchased	No				Each	309.0000		30			
AN4-13A									**			DAS 27 9-89	DAS 26 9-89
Bolt													

DAS
6
9-89

Location	Loc Qty	Loc Code
FG	20	
122808	20	
ST325A	200	
m131957	200	
ST344	89	
131677	89	

D2182B

D2182B

Rubber Cushion - Black (\$Per Foot)

Manufactured No

160 f 551.7680 2

**

Location	Loc Qty	Loc Code
ST411	201.768	
108914	3	
115189	21.5	
128976	177.268	
st640	350	
130427	350	

DAS 27 9-89
DAS 26 9-89

MAY 19 2015

DAS
6
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause				FAULT CATEGORY					
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

Picklist Print

May-07-15 2:40:39 PM

Page 2

Work Order ID: 132409

Parent Item: D135-692-011

Parent Item Name: Bearpaw

132409

D135-692-011

Start Date: 4/30/15

Required Date: 5/08/15

Start Qty: 2.00

Required Qty: 2.00

D2274

Manufactured No

160

Each

549.0000

8

32

D2274

Radius Block

**

DAS

27

9-89

DAS

26

9-89

Location

Loc Qty

Loc Code

FG

12

86855

12

ST006

402

127579

390

129934

12

ST012a

135

131031

135

DAS

6

9-89

D2519

Manufactured No

160

Each

30.0000

4

16

D2519

Clamp

**

DAS

27

9-89

DAS

26

9-89

Location

Loc Qty

Loc Code

ST542

30

101510

8

129515

20

99606

2

→ B1K683

DAS

6

9-89

D2529

Manufactured No

160

Each

122.0000

8

32

D2529

Washer

**

DAS

27

9-89

DAS

26

9-89

Location

Loc Qty

Loc Code

ST008

122

128950

122

160

Each

0.0000

2

32

MAY 19 2015

D3049-1

Manufactured No

D3049-1

Bearpaw

**

132491

DAS

26

9-89

DAS

6

9-89

May-07-15 2:40:39 PM

Shop Packet Print

Page 2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Picklist Print

May-07-15 2:40:39 PM

Page 3

Work Order ID: 132409

Parent Item: D135-692-011

Parent Item Name: Bearpaw

132409

D135-692-011

Start Date: 4/30/15

Required Date: 5/08/15

Start Qty: 2.00

Required Qty: 2.00

MS2104214

Purchased

No

160

Each

2,297.000

8

32

MS2104214

Locknut

**

DAS

27

9-89

DAS

26

9-89

DAS

6

9-89

Location

Loc Qty

Loc Code

FP001

42

m124231

42

GA

224

m127813

224

ST260a

62

m130799

56

m131803

6

ST305

1969

m128300

8

m130388

16

m130922

97

m131618

12

m132123

1836

NAS1149D0463J

Purchased

No

160

Each

4,471.000

8

NAS1149D0463J

WASHER

**

DAS

27

9-89

DAS

26

9-89

DAS

6

9-89

Location

Loc Qty

Loc Code

GA

41

M129390

41

ST269

4430

M129682

86

M130799

371

M132035

3973

MAY 19 2015

32

May-07-15 2:40:39 PM

Shop Packet Print

Page 3

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																		
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																		
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																		
Large Fab ☐	Composite ☐	Supplier ☐																			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval																	
Description Work Order Deviation		Disposition		Completed By																	
				Lead hand / Supervisor Approval Verification																	
				QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																
OTHER : _____																					

Picklist Print

May-07-15 2:40:39 PM

Page 4

Work Order ID: 132409

Parent Item: D135-692-011

Parent Item Name: Bearpaw

132409

D135-692-011

Start Date: 4/30/15

Required Date: 5/08/15

Start Qty: 2.00

Required Qty: 2.00

QS100-M24S

Purchased

No

160

Each

4.0000

QS100-M24S

Clamp

**

132342 x 12

DAS

27

9-89

MAY 19 2015

Location

Loc Qty

Loc Code

ST⁵⁴⁴

4

M132107

4

DAS

6

9-89 ✓

May-07-15 2:40:39 PM

Shop Packet Print

Page 4

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

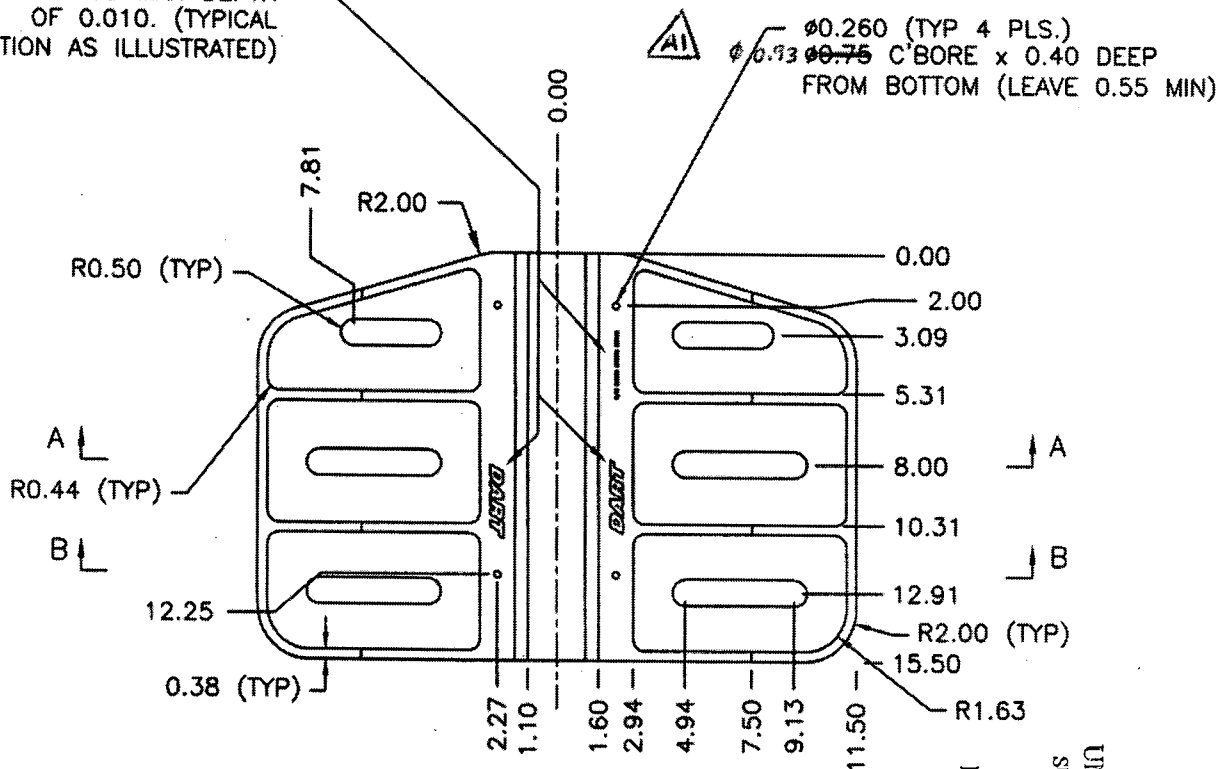
Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								



DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D3049	REV. A SHEET 1 OF 2
DATE 01 10.18		TITLE BEARPAW	SCALE 1:7
A	01.10.18	NEW ISSUE	
AI	# RF 03.01.13	$\phi 0.93$ WAS $\phi 0.75$	

RELEASED
01.10.24

ENGRAVE DART LOGO TO
MAX DEPTH OF 0.012.
ENGRAVE PART AND BATCH
NUMBERS TO MAX DEPTH
OF 0.010. (TYPICAL
LOCATION AS ILLUSTRATED)



D3049-1 BEARPAW

NOTES:

- 1) BEARPAW IS SYMMETRIC ABOUT CENTER LINE
- 2) MATERIAL: UHMW BLACK PER SPEC CONTROL DRAWING D2689, 1.00" THICK (MACHINE TO 0.950)

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WORK UNDER
NOTICE
NO 132409 M25
15-05-11

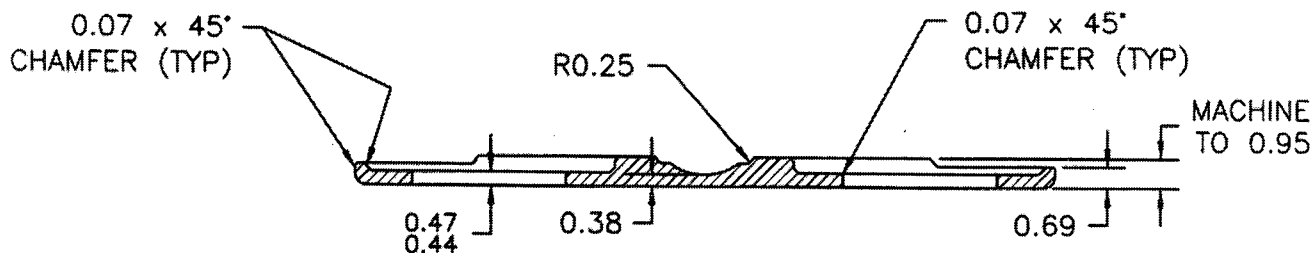
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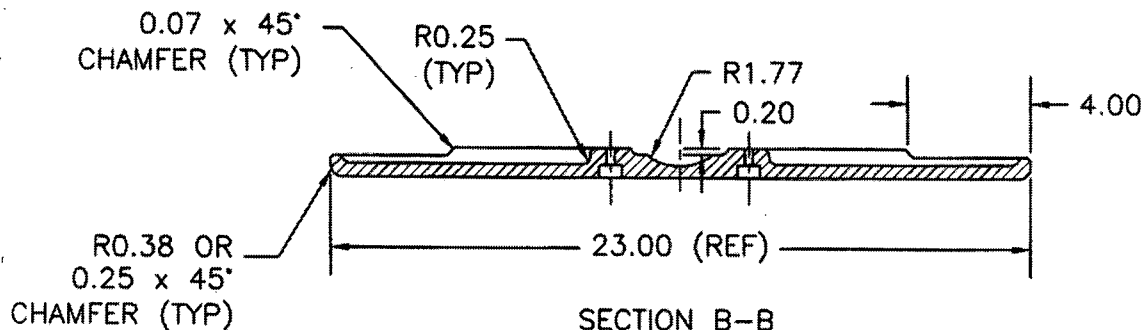


DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED 	APPROVED 	DRAWING NO. D3049	REV. A SHEET 2 OF 2
DATE 01.10.18		TITLE BEARPAW	SCALE 1:6

RELEASED
01.10.24



SECTION A-A



SECTION B-B

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5. Additional AN960JD416 washers may be installed under the nuts to ensure 1.5-4 threads in safety on the bolts. Although not generally necessary, it is also acceptable to replace the AN4-15A bolts with longer or shorter AN4 bolts, if required.
6. Lower the aircraft

4. WEIGHT AND BALANCE

Installation	Weight	LATERAL		LONGITUDINAL	
		Arm	Moment	Arm	Moment
D135-692-011 Bearpaw Installation on model EC135 aircraft	11.8 lb 5.36 kg	0.0 in 0.0 m	0.0 lb-kG 0.0 m-kG	199.7 in 5.07 m	2356 in-lb 27.2 m-kG

5. PARTS LIST

Qty	Part Number	Description
X	D135-692-011	BEARPAW INSTALLATION
4	D2182B060	RUBBER CUSHION
8	D2274	RADIUS BLOCK
2	D3049-1	BEARPAW
8	D2529	WASHER
4	D2519	CLAMP
8	AN4-15A	BOLT
8	AN960JD416	WASHERS
8	MS21042-4	NUT (OR MS21042-4)
4	QS100M24S	CLAMP

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D135-692 REV. A AND
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D135-692 REV. 0
REF. FAA STC: SR01042SE

PURPOSE:

The purpose of this service instruction is to replace the AN4-15A Bolt with a shorter AN4-13A Bolt to facilitate installation.

CHANGE:

**5. PARTS LIST (IIN-D135-692)
32.4 PARTS LIST (ICA-D135-692)**

Qty	Part Number	Description
X	D135-692-011	BEARPAW INSTALLATION

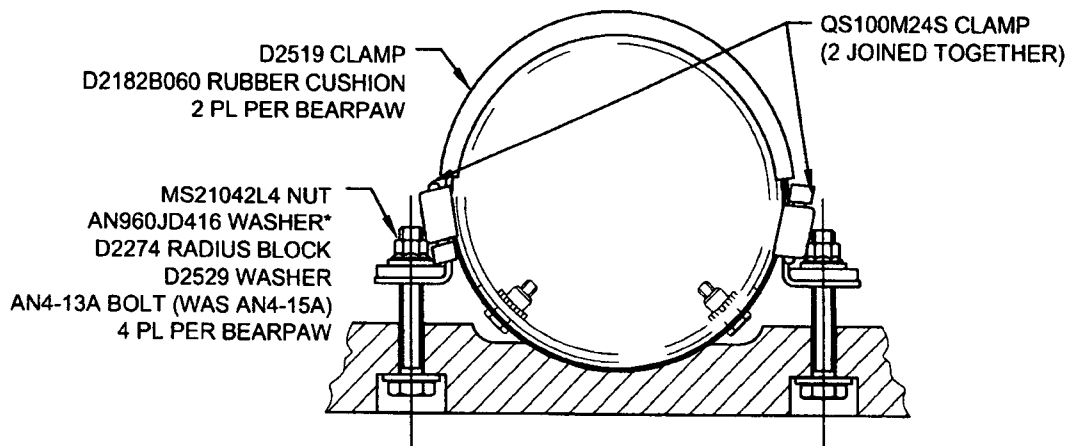
IS:

8	AN4-13A	BOLT
---	---------	------

WAS:

8	AN4-15A	BOLT
---	---------	------

Figure 2 of IIN-D135-692 and Figure 32-2 of ICA-D135-692 are amended as follows:



**Figure 2 - Bearpaw Installation (IIN-D135-692)
Figure 32-2: Bearpaw Installation (ICA-D135-692)**

A	NEW ISSUE	(REF: PAR10-56)	MB	11.12.13
REV.		DESCRIPTION	BY	DATE
DESIGN		DART AEROSPACE USA, INC		
DRAWN		KENT, WA		
CHECKED		DRAWING NO.	REV. A	
MFG. APPR.	N/A	DSI 9587	SHEET 1 OF 1	
APPROVED		TITLE	SCALE	
DE APPR.		BOLT CHANGE	NTS	
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